Acknowledged:

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1.0 INTRODUCTION

1.1 INTENT OF THE GUIDELINES

The University Boulevard Precinct has been the subject of planning for decades that focused on transforming the area into a mixed-use arrival precinct to the academic campus. The vision has been shaped by multiple planning processes and Board of Governor-approved policies, plans, and Board decisions for individual sites. The Precinct was also the subject of an international design competition in 2004–05.

These guidelines serve as an update to the University Boulevard Design Guidelines, presented to the Board of Governors in March 2010. These updated guidelines provide direction for campus public open space and proposed building siting, massing and design in the area.

Specifically, the guidelines:

- Reflect the development projects that have been implemented since 2010, primarily in the western portion of the Precinct.
- Provide direction for how proposed new projects and spaces will be planned, designed and developed to support the vision for the area as a complete community that acts as the vibrant academic and social heart of the campus and welcoming entrance to the university.
- Provide direction on:
  - Mix of uses and programming of spaces
  - Height, shape, size, character and materials of buildings
  - Character and quality of landscapes and open spaces around buildings and along streets
  - Pedestrian and cyclist circulation and universal accessibility
  - Other features such as public art or monuments
- Provide guidance on how the planning and design of precinct projects can help signify "university" in a way that expresses UBC's identity, values and standing as a globally significant university.
1.2 CONSULTATION PROCESS

The development of the updated Design Guidelines evolved through extensive engagement and consultation with campus stakeholders, academic leadership, staff and technical experts.

Stakeholder and public consultation on the University Boulevard Precinct began in January 2015, and included:

- A **workshop with academic leadership and faculty** on the academic uses and programming opportunities in the Precinct
- **Presentations** to and **discussions** with Deans, student government, UNA and UEL CAC, along with various campus committees
- **Phase 1 Public Consultation** was held in February 2015 to hear the needs, interests and ideas for how to complete the Precinct vision. This phase included an open house, public workshop and online consultation. Over 100 people attended the open house, 30 participants at the workshop, 32 feedback forms submitted by students, faculty, staff, alumni and neighbours along with 4 stakeholder submissions. Over 475 ideas and comments were submitted through the public consultation on ways to complete the Precinct vision.
- A **design charrette** with campus stakeholders was held in March 2015, to explore key outstanding design questions and challenges, including a discussion on delivering academic programming in the Precinct.
- **Phase 2 Public Consultation** was held in April 2015 to present the proposed planning and design concepts for feedback. Consultation events included an open house and online consultation. Over 165 people attended the open house, 38 feedback forms were submitted by students, faculty, staff, alumni and neighbours along with 2 stakeholder submissions.
1.3 POLICY CONTEXT

The University Boulevard Design Guidelines supplement three key land use policy documents: the UBC Land Use Plan; the UBC Vancouver Campus Plan; and the University Boulevard Neighbourhood Plan.

The University Boulevard Precinct includes both Academic and Village Centre Academic uses. Per the UBC Land Use Plan, areas immediately adjacent to University Boulevard are within the University Boulevard Neighbourhood area and classified as Village Centre Academic land use, while all other areas outside this boundary are classified Academic land use.

In using these guidelines, areas within the University Boulevard Neighbourhood shall comply with the provisions of the University Boulevard Neighbourhood Plan as well as the UBC Land Use Plan. Areas outside the boundary of the University Boulevard Neighbourhood shall comply with the Vancouver Campus Plan and UBC Land Use Plan. Where there is a discrepancy between the guidelines and the University Boulevard Neighbourhood Plan, the Vancouver Campus Plan and / or the UBC Land Use Plan, the Land Use Plan shall take precedence.
2.0 CAMPUS FRAMEWORKS

The Design Guidelines for University Boulevard have been developed in the context of the campus public realm frameworks that inform the overall draft Vancouver Campus Plan.

ARRIVAL ROUTES

At UBC Vancouver, each of the routes for arrival by vehicle, transit, bicycle, and on foot share a common experience that, taken as a sequence, defines the gateways to UBC. 10th Avenue / University Boulevard is characterized as a major arrival routes that moves through a stretch of forest as they leave the built-up parts of the City of Vancouver and then emerge into developed areas of the campus or the University Endowment Lands. Before arriving at the campus, one passes through a residential/commercial district that creates confusion before arriving at the campus threshold at Wesbrook Mall. Strengthening and marking this arrival point at Wesbrook Mall is a key objective of these guidelines.

CAMPUS TYPOLOGIES

Three typologies together create the ‘genus loci’ or special spirit of place for the Vancouver campus: forest, historic core, and contemporary.

The subject precinct is within the character area defined as the contemporary campus. It is also the primary gateway to and attaches itself to the historic core along East Mall. The formal geometry of this grid is reinforced by symmetrical streetscapes, rows of mature trees and axial sightlines to key buildings such as Koerner Library, I.K. Barber Learning Centre and Brock Hall. The Design Guidelines seek to reinforce and strengthen axial symmetry in the core and to create a major public square as a link between the University Boulevard Precinct and the historic core.

- Formal Beaux-Arts Inspired Landscapes
- Informal / Garden / Modernist Landscapes
- Forest
CORRIDOR STRUCTURE

A unifying structure of the UBC Vancouver campus is the grid of malls and roads established by the 1914 Sharp and Thompson Plan. This grid has a clear hierarchy in which Main Mall and University Boulevard are the primary corridors.

Main Mall and University Boulevard demonstrate their primacy with wide cross sections, generous open space, and grand, street trees. The design and materials for University Boulevard are intended to reinforce its place in the hierarchy and be readily recognizable as one of the most important places on campus.

East Mall is an important secondary corridor of the 1914 plan and as such the guidelines call for its legibility to be preserved.

COMMONS FRAMEWORK

The public realm is defined by commons as well as corridors. Large commons, the open spaces that are programmed to address the needs of the entire university community, are focused around the primary corridors of Main Mall and University Boulevard. The area between University Boulevard and Student Union Boulevard along East Mall is the location for a new major commons. This is envisioned as a social centre with an urban character and food services program. MacInnes Field is a new large commons that acts as a central gathering place within the Precinct and as a green welcome mat for those arriving by transit. The focus of the commons is on the new AMS Student Nest, Alumni Centre and the UBC Bus Exchange.
3.0 URBAN DESIGN FRAMEWORK

3.1 THE STUDY AREA

University Boulevard Precinct plays a distinct role within the campus as a key gateway and social hub. With a collection of some of the most public buildings on campus and fully integrated with transit, the Precinct is the primary arrival point and symbolic gateway to campus.

The study area is defined by and includes four primary campus roads: Student Union Boulevard and University Boulevard to the north and south, respectively, and East Mall and Wesbrook Mall to the east and west, respectively. The study area extends south of University Boulevard to include the building sites flanking the south side of University Boulevard, including the Strangway Building and the D.H. Copp Building site; a key redevelopment area within the Precinct.

The Precinct accommodates a daily influx of approximately 35,000 people arriving to campus by all modes, while also supporting academic, research, commercial, recreational and residential uses. These guidelines will help to integrate these uses with the special features of the public realm to create a coherent and connected framework for the Precinct.
3.2 THE VISION

The University Boulevard Precinct will support the academic experience by creating a vibrant academic and social hub, contributing to UBC’s complete community as a mixed-use core and serving as a welcoming ‘front door’ for the university. The vision for the Precinct has three primary objectives:

**Vibrant Academic and Social Hub**
- The precinct will become the vibrant academic and social heart of the campus, a hub that draws people together for dialogue, celebration, innovation, recreation, study, fun, and learning.

**Complete Community**
- The area will have diverse uses and services – including year-round non-market rental housing, student housing, student services, academic and recreation facilities, shops, restaurants, and open spaces – with great pedestrian and cyclist corridors and access to transit.

**University Gateway**
- As a key gateway and symbolic entrance to the campus, the precinct plays a significant role in expressing the identity and values of the university.

3.3 LAYERED ACADEMIC EXPRESSION

The integration of academic expression throughout the Precinct is one of the key objectives of these Design Guidelines. The consultation process helped identify student life and activity as the most important expression of “University”. Built form, public spaces, and program should help foster, support, and highlight the dynamic nature of campus life through the following recommended strategies:

**Architectural expression**
- Cohesive architecture
- Academic building scale and forms
- Transparency
- Showcase academic and research: i.e. Campus as a Living Lab projects

**Street level academic uses**
- Student support services
- Collegia
- Informal study spaces
- Collaborative spaces
- Innovation and partnership centre
- Visitors services
- Galleries and exhibition spaces
- Living Lab

**Public realm**
- Outdoor ‘classrooms’
- Diverse seating opportunities including study tables
- Spaces to encourage dialogue and exchange
3.4 BUILDING SITING AND MASSING

Since the March 2010 University Boulevard Design Guidelines, several projects have been completed or are already underway. These projects are shaping the Precinct and are dramatically enhancing the student experience. This update to the March 2010 Design Guidelines responds to changes in the Precinct and helps guide new opportunities for how remaining building sites can be developed and programmed to create a vibrant academic and social hub.

3.4.1 BUILDING SITE APPROVALS AND STATUS

UBC Bookstore Expansion and Renovation (2014)
Located at the intersection of East Mall and University Boulevard, the UBC Bookstore Expansion and Renovation project brings a more contemporary expression to the building while improving its relationship to the public realm through the removal of the original below-grade entry sequence. The main entry and associated outdoor plaza are now at-grade and contribute life and vitality to the adjacent Money and Raymond MC Lee Plaza. The bookstore plaza provides diverse seating and social opportunities through movable furnishings and integrated benches. The plaza also allows for programmable events such as outdoor book fairs and small markets.

Alumni Centre (2015)
The Alumni Centre sits in a prime location at the heart of University Commons and in close proximity to The UBC Bus Exchange, the bookstore and the AMS Student Nest. The building is perched on The Porch, an elevated terrace that wraps the building. The terrace will provide prospect to University Square and Money and Raymond MC Lee Plaza and will support the commercial/retail activities of the building through outdoor café seating and social spaces.

The AMS Student Nest (New SUB) (2015)
Located between two primary social spaces – MacInnes Field and University Square – and along a key arrival route from transit, The AMS Student Nest is a focal point of the University Boulevard Precinct and will house the Alma Mater Society (AMS) and its services. The activities of the building will spill out into the public realm on both the west and east sides adding life and vitality to the Precinct. The Porch extends along the west edge of the building providing opportunities for outdoor café seating adjacent to interior services. The existing Knoll is fully integrated into the building design offering seamless indoor/outdoor seating through terraced seating steps, as well as a grassy refuge within an otherwise urban context.

Old AMS Student Union Building (SUB) Rehabilitation (tbd)
The proposed project includes exterior and interior renovations to the existing Student Union Building (SUB) and its rehabilitation. The renovated building would be a home to student support and development services currently dispersed throughout campus, as well as integrated wellness and recreation services. The Porch would provide an exterior connection and social space between the AMS Student Nest and the west entry of the Old AMS SUB. The new north entry would be fully renovated to serve as a legible and welcoming main entry from the Old Student Union Boulevard while providing clear pedestrian connections to both the upper and lower entries.
**New Aquatic Centre (2016)**
The new Aquatic Centre will provide student athletes with a state-of-the-art training facility, and the larger campus community (students, faculty, staff and residents) with an on-campus recreational facility. Located adjacent to the UBC Bus Exchange, the Aquatic Centre will provide light, animation, and social opportunities to passenger pick up areas through glazing and an exterior viewing platform with seating steps.

**University Boulevard Site B (non-market rental housing + retail)**
Site B is a mixed-use project providing university housing at market rates for people who work or study on campus. Ground level retail oriented along University Boulevard will help create an animated and engaging streetscape.

**University Square and Money & Raymond MC Lee Plaza (2015)**
Together, these two key public spaces create an outdoor social heart of campus. The simplicity of the spaces ensures that functional and program objectives can be met while still providing highly animated and vibrant social spaces. The plazas are defined on the edges through diverse integrated seating elements, including The Porch along the east edge, which allows for various ways to occupy the space. Movable furnishings that will fill the space for everyday use, can be moved aside to allow for larger organized events and festivals to occur. Informal recreation amenities such as a basketball court and ping pong tables will provide an additional layer of program, use and animation.

**Strangway Building**
Completed in 2009, the Strangway Building accommodates a mix of academic and at-grade commercial uses. The building’s form and massing seek to ground the corner with a noble expression, reinforced by the generous use of granite and masonry. It's gateway expression is further emphasized by an orientation to the orthogonal grid of the campus at its eastern end, which gives way to a massing aligned with the diagonal of University Boulevard, further along its west façade.

### 3.4.2 BUILDING SITES

**Gage South Student Housing**
Located at the intersection of Student Union Boulevard and Wesbrook Mall, Gage South Student Residences will provide 600-650 units of year-round student housing to the Precinct for upper year undergraduates. The residences will include a range of amenities, such as proximity to transit, an elevated central courtyard, plus gathering and informal study spaces.

**UBC Bus Exchange**
Over 25,000 people will move through the UBC Bus Exchange daily. The vision is for a lively and safe transit facility that is welcoming, expresses UBC identity, and provides clear connections to the greater campus. The concept includes centralized and safe passenger drop-off and pick-up areas that connect to pedestrian pathways, and a bus storage facility integrated underneath the future Gage South Student Residences. The concept puts transit riders close to residences and major destinations, demonstrating best practices in the design of transit-oriented development and contributing to UBC as a complete community. The project will integrate the needs of commuters, future student residents, TransLink and the University.
GSAB (South site)
The planning concept for the GSAB South site is to locate an academic building fronting the corner of University Boulevard and Wesbrook to enable a bold academic gateway building to be constructed in concrete with institutional quality architectural detailing and the ability to leverage this high profile location for potential donor funding. The remaining northern part of GSAB South site could be developed with housing, unless at the time of site development, sufficient additional academic programing and funding is identified to occupy all of GSAB South.

GSAB (North site)
The planning concept for the GSAB (North) site combines housing over a ground floor of a mixture of potential uses. The mixture of uses could include: athletics research, training and programming link to War Memorial Gym; shops and services to support transit users activities in the “Yard” outdoor space; and live work studios.

D.H. Copp site
The vision for the D.H. Copp site is for an innovative, sustainability project that combines research and practice focused on advancing the programming, design and construction of sustainable buildings and communities with housing. A Campus as a Living Lab component is a key goal of the project. This will involve a range of interdisciplinary researchers, building systems experts, and eventually building occupants. The goal is to have a series of potential research projects related to issues such as: sustainable building design and materials; monitoring environmental performance and human wellbeing; and the role of building design and operations in fostering human health and happiness.

War Memorial Gym
War Memorial Gym is home to the UBC Thunderbirds basketball and volleyball teams, as well as the central offices for the Athletics and Human Kinetics departments. Currently the building requires seismic upgrades and replacement of other building systems. Additionally, its athletic facilities do not fully meet the needs of current sports programs. The university will be assessing whether to renew or replace this building while also exploring the potential of expanding the site to extend into the ground floor of GSAB (North) site.

Wesbrook Mall
A main corridor of the campus (between Student Union Boulevard and Thunderbird Boulevard) will be redesigned to improve safety and traffic flow for all road users, especially pedestrians and cyclists.

University Boulevard Site D
Site D is a proposed mixed use project similar to Site B with ground level retail and university residential housing above. Ground level retail should be considered around the full perimeter of the building to provide animation and services along University Boulevard, MacInnes Field, and Athlete’s Way.
Note: Building footprints for GSAB (North and South), D.H. Copp, and Site D are conceptual and for illustrative purposes only.
3.4.3 THE PRECINCT PLAN CONCEPT

The Crescent
The Crescent is formed by Student Union Boulevard, the Commons, and Student Union Boulevard. This large scale public space system is an organizing principle of the Precinct.

The Core
The Core is formed by The UBC Bus Exchange, MacInnes Field, Athlete's Way, and The Yard. These key campus spaces and corridors complement the spaces of The Crescent and will complete the holistic development of the Precinct.

Wesbrook Mall
Wesbrook Mall is an important gateway street that defines the east edge of the precinct and serves as one of the most important ‘people movers’ for campus. Wesbrook Mall will serve as a multi-modal corridor and will embody the identity and character of the Precinct and campus.

BUILDING SITES

DH Copp and General Services Administration Building (GSAB)
The D.H. Copp and GSAB sites will both be redeveloped with the potential for academic and residential uses. Each site will contribute to their respective street fronts through streetwall definition and programming. The setbacks for each building site will take cues from adjacent existing buildings and landscape features.

Because of its size and location, the GSAB site will likely be developed as two separate phases, on the north and south portions of the site. The GSAB South site is in a prominent location at the northwest corner of the University Boulevard and Wesbrook Mall intersection and will contribute to the academic gateway expression at this important arrival point to campus.

Gage South Student Residences and UBC Bus Exchange
Situated on Wesbrook Mall at the southwest corner of Student Union Boulevard, the Gage South Student Residences will help define the streetwall along Wesbrook Mall and Student Union Boulevard while also serving as a key arrival point to campus for those traveling by transit. The student residences are fully integrated into the UBC Bus Exchange, with passenger pick up and drop off located immediately adjacent to the building, and the bus layover located directly below the first floor podium of the building. The design of the building will require special considerations for mitigating any potential acoustic, light and air quality conflicts between residential and transit uses and functions.

University Boulevard Sites B and D
Sites B and D will help define a continuous streetwall along University Boulevard with ground level uses that are prioritized for retail/commercial. These uses will provide a concentration of services for the campus community and contribute to the vibrancy and animation of this important campus street.
3.5 GATEWAYS

University Boulevard Precinct serves as a key gateway to campus with three distinct arrival points: University Boulevard, Student Union Boulevard, and arrival into the UBC Bus Exchange. University Boulevard is considered the primary gateway as it is the historic arrival route to the Point Grey campus. The sense of gateway is created through a combination of architectural definition, streetscape treatment, signage and wayfinding. Each gateway experience should have its own identity while being legible, welcoming, and expressing UBC identity. Recommendations for each gateway are as follows:

University Boulevard
- Define the intersection of University Boulevard and Wesbrook Mall through architectural massing, programming, and public realm treatment to create a sense of threshold and a pronouncement of arrival to UBC.
- Mark the gateway into campus through architectural massing and expression at northwest corner of the University Boulevard and Wesbrook Mall intersection (GSAB south site). The building at this corner should be treated as a ‘book end’ to the Alumni Centre at the intersection of East Mall and University Boulevard, stand as a ‘lantern’ and gateway building and increase the Precinct’s ambient scale.
- New development fronting onto University Boulevard should contribute to a cohesive streetwall along the north and south sides of the street to create an engaging and animated experience into campus while reinforcing its axial alignment.
- The University Boulevard streetwall should be articulated by strategic breaks and openings to preserve views to War Memorial Gym, retain important landscape features in front of the D.H. Copp site, and create visual and physical north-south connections across the precinct (i.e., at Athlete’s Way).
- Contribute to campus animation and vibrancy along this important campus street through street level programming and academic and retail/commercial uses.
- Provide generous and comfortable pedestrian corridors with integrated weather protection and diverse seating opportunities.
- Define distinct, comfortable, and legible cycle routes.
- Maintain the continuous formal row of street trees flanking both sides of the street and in the median.
- Continue the cohesive public realm treatment of the Precinct including paving, furnishings, and lighting.
- All frontages for new and existing buildings should be publicly engaging.

Student Union Boulevard
- The street alignment should be reinforced by the Gage South Student Residences and its axis aligned with the front door of the I.K. Barber Learning Centre to enhance processional formality and legibility of this important arrival route.
- The siting and architecture of the Gage South Student Residences should mark the southwest corner of Student Union Boulevard and Wesbrook Mall as a prominent corner contributing to gateway definition.
- Provide a formal arrangement of flowering trees along both sides of the street.
- Ensure that pedestrian and cycle routes are generous, direct, and legible.
- Provide a formal arrival plaza for drop-off and pick-up at the street end.
- Continue the cohesive public realm treatment of the Precinct including paving, furnishings, landscape and lighting.
The UBC Bus Exchange

- Siting and massing of buildings on the GSAB north site and the Gage South Student Residences should align with the War Memorial Gym and new Aquatic Centre respectively and provide a well-defined and visually engaging frontage in the creation of a large outdoor arrival "room" for the UBC Bus Exchange to strengthen the legibility of this arrival room, while also providing intimacy and visual comfort to the pedestrian experience through detailing and materials.

- Design and locate transit shelters according to applicable TransLink design guidelines and to define and enhance The UBC Bus Exchange as a place of arrival. Bus shelter design (form and expression) should visually contribute to the legibility of the outdoor arrival room and complement the Precinct's overall wayfinding and weather protection systems.

- Coordinate with TransLink to establish clear wayfinding strategies that are in keeping with UBC’s established wayfinding UBC Sign Standards and Guidelines, and help create a sense of place.

- Maximize opportunities in the public realm for the expression of student life near departure shelters.
3.6 THE CRESCENT- THREE PUBLIC SPACES

The Crescent is the organizing framework in the 2010 University Boulevard Precinct Design Guidelines and is formed by three public spaces—Student Union Boulevard, University Boulevard and the Campus Commons. These spaces compose an open space system of arrival routes, connections and special places for the Precinct. As the Precinct continues to evolve, the final development sites will help contribute to achieving and fulfilling the design intent for these spaces.
3.6.1 STUDENT UNION BOULEVARD
Student Union Boulevard is considered an important gateway street that should express a formal campus expression while supporting vehicular circulation, parking, bikes, and pedestrians. The street terminates at Student Union Plaza, a drop-off and pick up court that also provides access to and from the North Parkade. A campus green and existing tree bosque extends the formality of the street west to the I.K. Barber Learning Centre. The following recommendations should inform the design of Student Union Boulevard:

- Reinforce the axial formality of campus through a centerline street alignment to the front doors of I.K. Barber Learning Centre.
- Minimize the width of the existing centre boulevard to provide increased public realm along edges.
- Provide a formal arrangement of flowering trees along sidewalks to reinforce the street alignment, enhance legibility, and express UBC’s identity.
- Normalize the intersection at Wesbrook Mall to increase circulation, legibility and clarity of movement.
- Incorporate generous multi use paths on both sides of the street to accommodate pedestrians and cyclists. Pedestrian and cyclist movements and volumes will be monitored on these paths and if warranted, measures to separate modes through paint markings and signage will be considered.
- Provide on-street parallel parking along both sides to serve the Student Recreation Centre and Aquatic Centre.
- Design Student Union Plaza to reflect the rectilinear geometry of the historic grid and provide weather protection, seating, and seating for comfort and safety.
- Continue the rectilinear geometry through the form of The Green and Library Bosque.
- Look for opportunities for green infrastructure to manage stormwater in the landscape and divert from conventional stormwater infrastructure.
STUDENT UNION BOULEVARD - EXISTING DESIGN

STUDENT UNION BOULEVARD - PROPOSED DESIGN

STUDENT UNION BOULEVARD - TYPICAL STREET SECTION - PROPOSED DESIGN
3.6.2 THE COMMONS
The Campus Commons is comprised of a series of distinct places with complementary programs: University Square, the Knoll, the Bosque, and the Porch. Since the 2010 University Boulevard Precinct Design Guidelines, Money and Raymond MC Lee Plaza has been identified as an additional key public space within The Commons.

The majority of The Commons will be completed by Fall 2015. New open spaces within The Core will complement these spaces and help complete the open space network in the Precinct.
Money and Raymond MC Lee Plaza
The new Money and Raymond MC Lee Plaza is located at the intersection of East Mall and University Boulevard, a key campus crossroads. The design establishes a flexible and programmable space defined by a collection of seating platforms on all four sides. Large event lights located within the space will provide an opportunity to accommodate banners as well as programmed digital projections. The plaza must accommodate a high flow of pedestrians and cyclists as well as service and fire vehicles. In addition to and supporting high levels of circulation, the plaza will also accommodate temporary art exhibits and other types of student and smaller campus events.

University Square
University Square is positioned as the forecourt to The AMS Student Nest and the Alumni Centre and is envisioned as the outdoor social centre for the entire campus. Designed as a large, level plaza space, University Square will be transformed through informal and formal uses and activities. Campus wide events that may take place in the Square include Storm the Wall, a variety of markets and fairs, outdoor barbecues and food fairs, the start and finish of runs and marathons, concerts, and demonstrations. Where feasible, infrastructure has been integrated into the design to support these uses.

On a daily basis, the plaza will be a focal point for informal socializing and gathering with a variety of integrated seating (i.e. seating steps, seat walls, and a community table) as well as movable furnishings. In addition to a wide range of ways to occupy the space, amenities to support ongoing animation include an informal basketball and outdoor ping pong tables. University Square is an urban and hardscaped counterpart to the new MacInnes Field located to the east of the AMS Student Nest and Old AMS SUB.
The Knoll
Considered a ‘sacred’ space on campus, the design of University Square and The AMS Student Nest fully embraces the significance of this feature. By fully integrating into the architectural design, the Knoll seamlessly sits between The AMS Student Nest and University Square providing a green place of prospect in an otherwise urban environment. Edges have been modified to accommodate seating terraces and an accessible walkway up to the Porch and existing trees preserved.

The Bosque
The Bosque of pin oaks is a large-scale landscape feature that conceptually functions as the main treed park on campus. The space has been preserved throughout the design and development of University Square and is envisioned as a programmable space that may accommodate art installations or other activation type amenities in addition to significant pedestrian movements. Recommendations that still need to be considered include the following:

- Provide well defined, paved pathways along key desire lines.
- Explore an improved surface treatment (i.e. granular, shade tolerant ground cover with improved drainage).
- Provide edge definition to control and direct pedestrian movements to pathways (i.e. low walls, benches)
- Consider the provision of a special moment in the interior of the Bosque (i.e. seating/gathering place, small pavilion).
- Explore options to reduce the amount of tree canopy to increase the Bosque’s social utility.

The Porch
The Porch is a key architectural feature that defines the west edges of The AMS Student Nest and the Alumni Centre. Conceived of as an elevated terrace, the Porch will support interior commercial/retail uses through outdoor seating areas that provide prospect to the adjacent University Square. The porch is intended to continue north to connect The AMS Student Nest terrace to the west entry of UBC Life. Recommendations for the north section of the Porch is as follows:

- Extend porch north to west entry of Old AMS SUB at the same elevation as currently established.
- Continue public realm language as currently established including paving pattern, guardrails and handrails
- Provide a generous width to accommodate pedestrian circulation and café tables.
- Ensure that final portion of Porch is fully integrated into the west entrance of the Old AMS SUB.
- Consider weather protection from The AMS Student Nest to west entry of Old AMS SUB.

Memorial Garden
The 2010 Guidelines had identified an area informally known as Memorial Garden as a key open space that would mark the north terminus of The Commons. Since then, the site has been prioritized as a potential building site for the Arts Undergraduate Society rather than an open space.
3.6.3 UNIVERSITY BOULEVARD

University Boulevard is a primary gateway to campus. It is a key arrival route envisioned as a 'Main Street' serving the campus community through a variety of street level uses, services and programs. The streetscape must support trolley buses, vehicular traffic, bikes, and pedestrians. To fulfill the design intent for this important campus street, the following recommendations should be considered in coordination with the final development sites identified along this route:

- Use architectural massing and expression at the northwest corner of the University Boulevard and Wesbrook Mall intersection to define gateway.
- Ensure a continuous streetwall along both sides of the street through consistent setbacks and pedestrian scaled weather protection, while making special accommodation for significant existing trees on the south side of the street.
- Provide a concentration of street level retail/commercial uses oriented towards University Boulevard for animation and vibrancy.
- Provide a pocket park in relation to trees identified for preservation at the D.H. Copp site.
- Maintain the existing formal street trees along both sides of the sidewalk.
- Maintain existing on-street parking on north side of the street.
- Sidewalks to be generous in size to allow for both pedestrian movements and outdoor uses (i.e. café tables, outdoor exhibitions).
- Continue the cohesive public realm treatment of the Precinct including paving, furnishings, and lighting but allow for special design opportunities to define special places (i.e. D.H. Copp site pocket park).
3.7 THE CORE

The Core will complete the precinct through the final development sites and associated public realm. Key features of The Core include The UBC Bus Exchange and the New MacInnes Field. These spaces will be connected through several new pedestrian and bike corridors including Athlete’s Way, The Yard, and Wesbrook Mall.
Note: Building footprints for GSAB (North and South), D.H. Copp, and Site D are conceptual and for illustrative purposes only
3.7.1 THE UBC BUS EXCHANGE

Situated on Wesbrook Mall and centered between Student Union and University Boulevards, the UBC Bus Exchange will act as a campus gateway. Aligned axially to the AMS Student Nest, The UBC Bus Exchange extends into the social heart of campus, providing convenient access to students traveling to and from various areas of the campus. The Bus Exchange must be an efficiently functioning transit facility, convey a welcoming first impression, and express UBC’s identity. The associated public realm will help further define The UBC Bus Exchange and identify it as uniquely UBC. The following recommendations should be considered to achieve the functional and experiential qualities intended for this key campus arrival and departure point:

Circulation and Orientation

- Establish legible, safe, universally accessible and direct pedestrian connections to the greater campus and minimize conflicts between pedestrian movements and bus circulation.
- Ensure clear orientation and wayfinding—Coordinate with TransLink to develop a wayfinding plan.
- Consider opportunities for bold graphics along the east edge of the Aquatic Centre at the bus arrival corridor to aid in wayfinding and orientation, and enhance the arrival experience.
- Improve ease of access and legibility along the south frontage of the Student Recreation Centre.
- Provide bike racks, preferably in a covered location, within easy access to the UBC Bus Exchange without compromising pedestrian circulation and flow.

Sense of Place

- Build a cohesive and defining identity through architectural structures designed for weather protection, lighting, spatial and edge definition, and wayfinding.
- Express UBC identity through:
  - Materiality and colour (e.g. wood, Resysta, and UBC’s street infrastructure colour palette)
  - Public art opportunities
  - Architectural expression
- Utilize the centre median as a placemaking opportunity and visual focal point through the incorporation of super graphics, landscape, and/or public art.
- Continue the cohesive public realm treatment currently established in the Precinct throughout the UBC Bus Exchange, including paving, furnishings, lighting, and colour.

Experience

- Provide services that support transit users (i.e. small scale retail, bike storage) along the south edge of the departure area (War Memorial, GSAB North site).
- Animate building edges (War Memorial Gym, Aquatic Centre, GSAB North site) adjacent to the UBC Bus Exchange with street level services and visible program.
- Ensure that the facility design incorporates, where viable, noise and air pollution mitigation measures.
- Create a safe and enhanced night experience through high quality lighting design.
- Incorporate continuous weather protection for arrival and departure areas to optimize the comfort and experience of passengers.
PROPOSED CONCEPT FOR PASSENGER DROP OFF - LOOKING NORTH - TYPICAL SECTION

PROPOSED CONCEPT FOR PASSENGER ARRIVAL AREA, LOOKING NORTHEAST, TOWARDS RESIDENCES

PROPOSED CONCEPT FOR PASSENGER PICK-UP, NORTH SIDE, VIEW EAST

UBC BUS EXCHANGE CIRCULATION DIAGRAM

The UBC Bus Exchange

UBC AQUATIC CENTRE

GAGE SOUTH STUDENT RESIDENCES ABOVE BUS STORAGE

PLANNING AND SERVICE LANE
PEDESTRIAN PATH
PASSENGER ARRIVAL
BUSES UNLOADING
BUS STORAGE

MAY 2015
3.7.2 ATHLETE’S WAY

Athlete’s Way is a key north-south campus corridor that connects from Student Union Boulevard to University Boulevard. Athlete’s Way will build upon the existing axial formality of the campus and connect the athletic, recreation and social elements of the area. This link will serve as the key pedestrian route for Aquatic Centre patrons arriving from Student Union Boulevard and, on a wider scale, will connect campus users from areas north and south of the Precinct. The design of Athlete’s Way should consider the following recommendations to provide an engaging and legible corridor for high pedestrian flow:

- Provide clear connectivity and direct alignment from Student Union Boulevard to University Boulevard with a visual connection to and through the D.H. Copp site and towards the interior courtyard.
- Explore strategies for incorporating UBC Athletic’s identity through programming (i.e. outdoor fitness area adjacent to War Memorial Gym) and design, such as vertical markers, banners, and special accent or interpretive features.
- Incorporate wayfinding and orientation features per UBC’s suite of wayfinding.
- Maximize opportunities for social interaction along the corridor through seating, viewing and activity areas.
- Ensure appropriate path width is maintained (3m minimum to 6m maximum) where fire access, service vehicles, and event set up is required.
- Preserve mature trees adjacent to east side of the existing Student Union Building.
- Provide continuous weather protection adjacent to MacInnes Field along eastern edge adjacent to the UBC Bus Exchange.
- Recognize the programmatic role in support of new MacInnes Field activities day and night.
- Look for opportunities for green infrastructure to manage stormwater in the landscape and divert from conventional stormwater infrastructure.
3.7.3 THE YARD
The Yard is a mid-block public open space and connection between the UBC Bus Exchange and University Boulevard defined by the GSAB site, War Memorial Gym, and University Boulevard Site B. The corridor is envisioned as an animated ‘back alley’ where academic building program is highly visible and spills out into the space. The Yard will need to accommodate vehicle and fire truck access from Wesbrook Mall to service the associated buildings along the corridor. The design of the corridor should be informed by the following recommendations:

- New buildings should frame and contribute to the animation and activation of the Yard’s spaces especially through ground level programming and uses reflective of innovation, achievement and student life.
- Academic street level uses should be prioritized along the corridor with retail at the north and south building corners oriented towards The UBC Bus Exchange and University Boulevard.
- Consider small-scale ‘incubator spaces’ such as maker spaces, studios, clubs, exhibition spaces, and small shops.
- Consider providing large overhead glazed service doors along the lane to facilitate flexible ground floor use along the Yard.
- Provide opportunities for interaction such as seating, community tables, and street level exhibition spaces.
- Continue the cohesive public realm treatment of the Precinct including paving, furnishings, and lighting but allow for special design opportunities to define this as a unique space within the Precinct.
- Allow for ongoing student and faculty involvement and contributions to shaping and defining the character of this space.
3.7.4 MACINNES FIELD
The new MacInnes Field is a key public space within the University Boulevard Precinct open space network. Located on the east side of The AMS Student Nest, and at the west terminus of The UBC Bus Exchange, the field is poised as an active ‘front yard’ to the Precinct that will complement the urban character of University Square located to the west. Envisioned as an informal ‘green’ open space, the field will provide relief from the surrounding built environment and support three key uses – everyday informal social and recreational uses, after hour intramural sports, and annual campus wide events. The field should be simple and clear in form to help define circulation corridors around all sides and to allow for programmed uses and events to transform the space as required. Special consideration should be given to the east edge of the field to help mitigate any potential conflicts between field uses and transit. When considering the field as a social and recreational space, the following recommendations should be considered:

**Surfacing**
- Artificial turf is recommended for durability and year-round use.
- Turf should appear as natural and green as possible to mimic lawn.
- No formal cross paths are intended for this space.

**Edge Treatment**
- Maximize openness and accessibility and minimize restricted access.
- Provide opportunities along east and west edges to accommodate temporary goal nets for intramural sports.
- Strategies to control and deter circulation across field:
  - Change in grade at perimeter
  - Seating
  - Architectural structure
- Clear circulation routes around field
- East edge of field should include the following:
  - Weather protection
  - Integrated seating along east edge to capture east sun
  - Architectural structure to define the east edge and create enclosure
  - Structure wall with various levels of permeability providing prospect refuge, ball conflict control, weather protection
- Strategies to control potential conflicts with transit (balls, Frisbees):
  - Change in grade
  - Extension of architectural structure
  - Strategic fencing (permanent or temporary)
- Frame the field with integrated pedestrian level lighting.
Program

- Daytime program will prioritize informal social and recreational uses where the field reads as an extension of the interior activities of The AMS Student Nest.
- After hours program will prioritize intramural sports and the design should incorporate accommodations for intramural sport set-up (i.e. temporary goal nets).
- Design should incorporate accommodations for large scale event set up such as:
  - Infrastructure (i.e. power, water, gas)
  - Adequate hardscape space for stage set up and front and back of house
  - Adequate perimeter circulation for stage delivery, food trucks, fire and other service vehicles
  - Ability to fence temporarily for paid events
- Maximized green open space
- As part of future upgrades to War Memorial Gym, consider incorporation of a small retail component at the northwest end of to serve sports needs of the Precinct and people waiting for bus departures and a more engaging "porch" with active edges and overlook opportunities.
- Ensure the design of Site D provides an active and engaging edge to the field.
3.8 WESBROOK MALL

Wesbrook Mall is an important gateway street that is one of UBC’s most important transportation routes. It is a primary access street to the campus. Its design will embody the identity of the campus, express its character and help celebrate the gateway and arrival experience. It is envisioned as a beautiful, green, pedestrian – and bicycle-friendly street. As part of the re-design, the street will be narrowed, generally accommodating one traffic lane in each direction, turn lanes where necessary and transit priority lanes between Agronomy Road and Thunderbird Boulevard. A 3.0m wide planted median will run the length of the road except at turn lanes. Improvements to the layout and design will be informed by the directions below:

- Provide continuous separate 2.0m wide bike lanes along both sides of the street, buffered by a 1.0 metre pavement treatment to distinguish it from parking lane or travel lane.
- Generous, universally accessible sidewalks at 3.5 metres in width on the west side of the street with features such as lighting, banner arms, street trees, planting, and seating
- Allow for metered parking along the west side of the street, including dedicated car share parking spaces.
- Provide well defined and safe crosswalks at all intersections and at pedestrian desire lines (e.g. at UBC Health Precinct).
- Consider special hardscape treatment to define the crosswalks and to express gateway at the intersection of University Boulevard.
- Consider a pedestrian-only scramble style signal phase at the intersection of Wesbrook Mall and University Boulevard to facilitate pedestrian movements.
- Normalize the intersection at Student Union Boulevard to increase legibility, remove all channelized turns, decrease crossing distance and improve overall safety of the intersection.

WESBROOK MALL KEY PLAN

WESBROOK MALL CONCEPT PLAN

SEPARATED BIKE LANE
TYPICAL WESBROOK MALL SECTION AT UNIVERSITY BOULEVARD LOOKING NORTH
3.9 AXES/VIEWS

The axial formality of the precinct is reinforced by pedestrian and vehicular routes aligned to key buildings. The 2010 University Boulevard Design Guidelines identified key axes. With new development, these are expanded further to express the axial organization of the Precinct.

**East/west axes**
- Student Union Boulevard is aligned to the main door of the I.K. Barber Learning Centre.
- The UBC Bus Exchange is aligned to the centre of The AMS Student Nest and framed by the new buildings of Gage South Student Residences and the GSAB North site.
- University Boulevard (East of East Mall) is aligned to the Money and Raymond MC Lee Plaza.
- University Boulevard (West of East Mall) is aligned to the new Alumni Centre.

**North/south axes**
- The Alumni Centre is aligned to Brock Hall entry as framed by the porch edges of The AMS Student Nest, the Old AMS SUB, and the Bosque.
- Athlete’s Way is aligned to a visual connection through new building on the D.H. Copp site.
- The Yard aligns to the UBC Bus Exchange and to University Boulevard.
3.10 PEDESTRIAN & BIKE CIRCULATION

The Precinct will be designed to ensure easy, convenient and comfortable pedestrian and bicycle access. The 2010 Design Guidelines identified key pedestrian connections to primary facilities in the Precinct. With the development of The Core, new pedestrian and bike connections have been identified and further refined to respond to new movement corridors and desire lines. The following primary movement corridors should be provided:

**Pedestrian Routes North/south**
- Wesbrook Mall
- The Yard
- Athlete’s Way
- MacInnes Field West
- The Porch
- East Mall

**Pedestrian Routes East/west**
- Student Union Boulevard
- UBC Bus Exchange (north) to University Commons
- UBC Bus Exchange (south) to Money and Raymond
- MC Lee Plaza
- University Boulevard
- Aquatics Centre North Terraces

**Bike Routes**
- Major pedestrian and bike routes are designated as "slow" cycling routes, reflecting their functions as shared spaces.
- Wesbrook Mall will have a buffered lane along the corridor. If budget allows, complete separation will be implemented.
- Student Union Boulevard will feature a 5 metre multi-use pathway on either side as well as shared lanes on the roadway that will be marked with bike symbols and chevrons.
- Improvements on University Boulevard will include better signage and route definition for cyclists along the corridor and at the entrance to East Mall. Once Wesbrook Mall and East Mall are complete this cyclist corridor will be monitored to determine if additional measures and changes are required.
- Bike racks will be provided throughout the Precinct in quantities and locations suited to use and demand. A location for secure bike storage will be explored as part of Gage South Student Housing.
3.11 VEHICULAR CIRCULATION & PARKING

Per campus policy, large parking surfaces are prohibited. General precinct parking needs shall be met in the North Parkade while a limited amount of short-term on-street parking will be provided to support ground-level retail and accessibility needs. Parking for residential uses will be provided in below grade parkades.

**Student Union Boulevard**
- Vehicular access terminates in the Student Union Plaza which serves as a key drop-off/public space.
- Vehicular access to the North Parkade
- Service access to the Old AMS SUB, The AMS Student Nest, Student Recreation Centre, Aquatic Centre, and Gage South Student Residences
- Parking should be provided along both sides of the street to support Student Recreation Centre and Aquatic Centre drop-off, accessible and short term parking needs.
- Special event access will be provided to MacInnes Field along Athlete’s Way.

**University Boulevard**
- Vehicular access terminates at the Alumni Centre and The AMS Student Nest auto court with drop-off, pick up and a small area for short term and accessible parking.
- Metered street parking is provided, primarily on the north side to support retail needs with Trolley bus stops serving the majority of the south side of the street.
- Temporary service and underground parking access to Site B is provided at The Yard until the GSAB South site is completed, when access may be relocated off Wesbrook Mall.
- Special event access will be provided to MacInnes Field along Athlete’s Way.
- Emergency and service access will continue west of the Alumni Centre and along Athlete’s Way.
- Parking to the D.H. Copp site will be accessed from Wesbrook Mall in the existing lane servicing the Strangway Building.
4.0 PUBLIC REALM DESIGN GUIDELINES

4.1 INTRODUCTION

The design of the public realm for the University Boulevard Precinct is intended to provide a unified and cohesive sense of place on campus. The precinct will have a collection of public spaces and landscapes with a variety of programs and activities. It is intended that the individual parts will read as part of the collective place. This will be achieved through the use of coordinated design elements to create a common identity, including:

- Weather Protection
- Paving
- Lighting
- Site Furnishings
- Bike racks
- Signage
- Soft Landscape
- Public Art
- Sustainability Initiatives
- Comprehensive Wayfinding System

4.2 UNIVERSAL ACCESSIBILITY

The University is committed over time to providing dignified, welcoming, and effective access to people of all ability levels, to all parts of the campus and buildings where people are expected to engage in university life. In addition to meeting the accessibility provisions in the BC Building Code, all new project designs must seek to achieve the universal accessibility policies outlined in Section 2.2 of the Vancouver Campus Plan.

UBC MAIN MALL PUBLIC REALM

UNIVERSAL DESIGN
4.3 WEATHER PROTECTION

Weather protection for pedestrian comfort is an important feature for creating a pedestrian-priority campus. Where new buildings define the public realm, weather protected pedestrian routes should be provided as follows:

**D.H. Copp site**
- Weather protection should be provided in relation to any street level building uses proposed along University Boulevard for year round use and animation of these spaces.

**Sites B and D**
- Buildings on sites B and D should incorporate weather protection oriented towards University Boulevard to create a weather protected route from Wesbrook Mall to East Mall at the Alumni Centre.
- Weather protection should be considered around all sides of Site D due to the associated circulation corridors surrounding this site as well as the proposed ground level program.
- Location, height and depth of weather protection should also consider provision for covered bike racks, pedestrian movement, and seating areas.

**GSAB North and South Sites**
- Weather protection should be prioritized at building edges associated with the primary circulation routes along Wesbrook Mall, University Boulevard, and The Yard.
- Along the north edge of GSAB North, special consideration should be given to any proposed weather protection along this edge and its relationship to the transit structures in this area.

**Gage South Student Residences**
- Provide canopies or integrated weather protection at key access points to the building.
- Additional weather protection should be considered throughout the design process.

**The UBC Bus Exchange**
- The UBC Bus Exchange bus arrival and departure areas should have generous weather protection located to ensure ease of passenger circulation, access and comfort and designed to block or minimize impact of prevailing winds.
- Linear canopies over arrival and departure platforms will provide weather protection, act as placemaking devices and lend to intuitive wayfinding to and from the transit facility.
- Routes from transit to the campus core should, where possible, provide weather protection through the use of individual building canopies and/or interior public routes.

**MacInnes Field**
- Along the eastern edge of MacInnes Field, consider a generous weather protection canopy along Athlete’s Way as part of an architectural defining edge to the field and a terminus to the UBC Bus Exchange.
Student Union Boulevard Plaza
- Where vehicular drop-off and pick-up area is located, a weather protection canopy should be provided on the western and southern edge to accommodate drop off and pick up and to help define the space.

Reference: Vancouver Campus Plan Part 3 Design Guidelines, Section 2.3.9 Rain Protection
4.4 PAVING

A coherent approach to paving design should be used throughout the Precinct. Variations will identify special places and distinct routes across plazas and greens. As a place of social interaction, campus events and ceremonies, the paving should express vibrancy, dynamism and youthfulness. It is recommended that:

- University Boulevard Precinct (Type 3) paving should be provided along University Boulevard between Money and Raymond MC Lee Plaza and Wesbrook Mall.
- Design development should be undertaken to define the interface between Type 1 and Type 2 paving through the open space network of the Precinct and to consider variations of these patterns in order to define special places and routes and to allow for more cost effective paving in certain areas.

Reference Vancouver Campus Plan Part 3 Design Guidelines Section 2.5.1
4.5 LIGHTING

Lighting is important to achieve a number of key objectives. As a place for major social activities and events on campus, the major transit hub and key public destinations, lighting needs to achieve of the following key objectives:

- Enhance safety, perceived safety and security.
- Contribute to a comfortable night environment.
- Create a unified character.
- Mark routes and corridors.
- Highlight the Precinct as a lively, dynamic, active place.
- Provide opportunities for special events and ceremonies to occur without the need for temporary lighting.
- Emphasize special places and features.
- Create inviting entrances to buildings and passages.

It is recommended that:

- A detailed comprehensive lighting scheme should be prepared which meets the objectives and standards of Section 2.5.2 of the Vancouver Campus Plan Design Guidelines, and establishes locations, light levels, lighting type and fixtures, special places, event and ceremonial lighting.
- Lighting along the three corridors (East Mall, University Boulevard, Student Union Boulevard) are an exception and shall use light standards established for University Boulevard.
- Exterior building lighting should showcase interior and exterior activities to help animate the public realm and bring depth and interest to the buildings. At the same time building lighting levels (interior and exterior) should be designed to eliminate glare or produce light spillage that impacts lighting levels established for the public realm.

Reference Vancouver Campus Plan Part 3 Design Guidelines Section 2.5.2
**VANCOUVER CAMPUS PLAN PART 3 - MAPS 3-11 LIGHTING CIRCULATION**

- **Public Road at Site Edge:** 4 Lux
- **Secondary Pedestrian Route:** 15 Lux
- **Primary Ceremonial Route:** 25 Lux
- **Tertiary Pedestrian Route:** 5 Lux
- **Campus Roads with Sidewalks:** 6 Lux
- **Shared Pedestrian + Service Lanes:** 4 Lux
- **Pedestrian Priority Zone**

**VANCOUVER CAMPUS PLAN PART 3 - MAPS 3-12 LIGHTING NODES**

- **Placemaker Building or Structure Facade Icons + Hubs:** 110 Lux
- **Campus Core + Modern Campus:** 55 Lux
- **Forest Campus:** 35 Lux
- **Hub Commons:** 30-50 Lux
- **Large Academic Commons - Plaza Surface:** 10-30 Lux
- **Small Academic Commons Plaza:** < 10 Lux
- **Large Academic Commons - Green Surface:** < 10 Lux
- **Accented Forest:** < 10 Lux
- **Decorative Bosque:** 10-30 Lux
- **Pedestrian Priority Zone**
- **Primary Gateway:** 50-100 Lux
- **Secondary Gateway:** 50-100 Lux
- **Entrance:** 50-100 Lux
- **Primary Icons:** 50-100 Lux
  - Clock Tower
  - Main Mall Ornamental Pool
  - Flag Pole Plaza
- **Icon:** 50-100 Lux
- **Hub Commons:** 30-50 Lux
- **Large Academic Commons - Plaza Surface:** 10-30 Lux
- **Small Academic Commons Plaza:** < 10 Lux
- **Large Academic Commons - Green Surface:** < 10 Lux
- **Accented Forest:** < 10 Lux
- **Decorative Bosque:** 10-30 Lux
- **Pedestrian Priority Zone**
4.6 SITE FURNISHINGS

Site furnishings include seating, tables, notice boards, kiosks and bollards. These elements are important in order to convey a unified precinct character and encourage use and engagement of the public realm. As such it is recommended that:

- Site furnishings to be consistent with the Vancouver Campus Plan Design Guidelines.
- Extensive and varied seating opportunities are provided to encourage use by individuals and groups.
- Seating should be arranged to support, social mixing and interaction. Seating should include movable tables and chairs (ideally adjacent to indoor social places such as food services) table height surfaces for eating and study. Stairs, low walls and stepped edges to facilitate changes in grade, should be designed to facilitate casual seating.
- Provide fixed-in-place benches with and without backs, clusters of seating (i.e. booths, nooks, circles) to support social interaction. MacInnes Field should be enhanced to include seating at its edges for use in all seasons. Seating design should incorporate skateboard deterrents and be fabricated of durable materials.
- A range of messaging opportunities including electronic transit scheduling, notice boards, kiosks that incorporate electronic boards for posting and messaging by individuals, groups and event notices by the university, with specific attention given to the UBC Bus Exchange and providing a high level of customer information and wayfinding at this important arrival destination.
- Garbage and recycling receptacles and bike racks should be selected based on the VCP Design Guidelines.
- Provide drinking fountains in proximity to MacInnes Field.
4.7 SIGNAGE

The University Boulevard Precinct will be a collection of key public destinations and activities on campus. Many will require exterior building signage and public realm signage for identification, orientation and wayfinding. With the exception of the retail signage along University Boulevard, signage within the Precinct should be planned as a single system that provides effective and efficient wayfinding and notification of services.

All wayfinding and building signs are to be consistent with the UBC Signage Standards and Guidelines. Signs are subject to review and approval by Campus and Community Planning. Appropriate use of the UBC logo, font, colours and other graphic elements are specified in the UBC Visual Identity Guidelines. Coordination with TransLink is required for signage and wayfinding within the UBC Bus Exchange.

The vision of University Boulevard is as a vibrant ‘main street’ with ‘mom and pop’ style shops and services within an overall academic architectural expression. The retail signage plays an important in providing visual animation and vitality to the street. Retail signage should express the ‘personality’ of the retail entity in creative and whimsical ways and yet not be visually dominant over the neighbouring retailers nor the academic stature of the area. Retail chain branding signage is generally not supported.

Special consideration should be given to the following areas:

- Aquatics Centre East facade – Consider the use of this wall as a large scale signage opportunity for welcoming, orientation and wayfinding. Use of super graphics, colour and large scale maps should be explored.
- War Memorial Gym North facade – Consider incorporating digital event signage along this edge.
- UBC Bus Exchange – Digital schedule and information signage should be incorporated into the transit shelters throughout the Bus Exchange.

For special events signage the following is recommended:

- One location for banner signage that is front and centre and constantly changing: this could be within the exterior of the architecture or as a separate feature of the public realm (i.e. back drop to an outdoor stage). An example of the banner approach would be similar to the Vancouver Art Gallery banner system to announce events that are located on the north side of the gallery on Georgia Street integrated within the architecture.

Reference Vancouver Campus Plan Part 3 Design Guidelines Section 2.6.6 UBC Sign Standards and Guidelines
4.8 SOFT LANDSCAPE

The landscape vision for the Precinct is to strengthen and enhance the existing landscape aesthetic of open plazas and lawn areas.

Additional trees may be added to the Precinct to strengthen the edges of open spaces and corridors. Shrub areas will be added to strengthen and formally define the edges of places such as the west side of East Mall and the approach along Student Union Boulevard. Broad multi-purpose lawn areas and formal arrangements of shade trees will continue to characterize the Precinct. As such, it is recommended that:

- In general, protect existing precinct trees in order to maintain connection with the past (i.e. existing Sycamore trees on east side of Old AMS SUB, East Mall boulevard trees, oak tree bosque).
- The Bosque of oak trees is to be revitalized. New pathway interventions should be designed and installed to minimize impacts on tree health such as surfacing with granular fines or pea gravel. New pathways should facilitate movement and occupation of the Bosque. Several trees may be removed to achieve objectives including incorporation of a pavilion and the creation of an axial view featuring I.K. Barber at its terminus. In consultation with the University Arborist, the feasibility of selectively thinning trees in the Bosque should be explored to enhance tree health, increase penetration of the sun, and optimize the social use of the space. Drainage should be improved.
- The large elm tree located along the north side of University Boulevard is a remnant of the historic landscape and has been preserved as part of the Alumni Centre development.
- A realigned Student Union Boulevard should be flanked with double rows of flowering cherry trees. These trees should be set in wide landscape boulevards of mass spring plantings intended to celebrate the arrival of spring, to recognize the end of the winter term and to create a more formalized experience of gateway into the campus.
- The street trees along East Mall should be preserved within the form of the original historic boulevard.
- Shrub beds are to be mass planted in simple formal arrangements using a limited palette of only a few species. Plants selected should consist of at least 70 percent broad-leaved evergreens. Plants should be selected primarily for the interest they exhibit during the fall, winter and spring through leaf and blossom colour, branching pattern, fragrance and form.

Refer to Vancouver Campus Plan Part 3 Design Guidelines Section 2.4 and 3.3.3
5.0 BUILDING DESIGN GUIDELINES

5.1 SITING

Section 3.0 generally describes the Precinct Plan framework for the redevelopment of the remaining key building sites in the precinct that were not identified in the 2010 University Boulevard Precinct Design Guidelines.

General Constraints
Siting constraints that define site limitations for each of the buildings follow the requirements of the Vancouver Campus Plan, and include but are not limited to:

- Sustainability
- Universal Accessibility
- Architecture
  - Positioning, Massing Setbacks
  - Signature Building Sites
  - View Corridors
- Building Heights
- Architectural Expression
- Ground Floor Elevation
- Building Entry Location
- Stairs
- Rain Protection
- Sustainability Best Practice in Building Design
- Open Space
- Pedestrian and vehicular access (including servicing access)
- Existing road alignments
- Existing landscape features
5.2 MASSING

The massing along University Boulevard should be a maximum height of six storeys except at the northwest corner of the University Boulevard and Wesbrook Mall intersection where the massing increases up to eight storeys to help create a strong corner and gateway statement. From GSAB North heading north along Wesbrook Mall, the massing is intended to step up from 8 storeys to 14 stories at the northern edge of the Gage South Student Residences site.
5.3 ARCHITECTURAL EXPRESSION

The guidelines for architectural expression are based on the following principles:

• Academic Gateway
• Collective and Individual Identity
• Continuity of Campus Fabric
• Legibility and Transparency
• Campus as a Living Lab

5.3.1 ACADEMIC GATEWAY

The intersection of University Boulevard and Westbrook Mall is the premiere gateway to the whole academic core and is emblematic of UBC’s collective identity and cultural heart. To strengthen this important crossroads between “University and City” the following objectives are to be followed for building sites on University Boulevard and Wesbrook Mall:

• Create a strong corner expression at major street intersections.
• Building heights and architectural character should create a unified roof or parapet expression except where a gateway expression is desired.
• Use bold elements – through light, graphics, architecture
• Create a consistent street wall by aligning key architectural datums, such as setbacks, canopies, floor levels, façade orders and other building articulations.
• Buildings should be transparent, inviting, welcoming, and public.
• Express academic architectural features (e.g. high ground floor, two storey spaces, externally expressed staircases).

See Section 5.5 GSAB South site for more detailed guidance for this prominent gateway site.
5.3.2 COLLECTIVE AND INDIVIDUAL IDENTITY

The new building sites described in this section will help complete University Boulevard Precinct. In terms of building massing and expression, new projects should be designed to work together harmoniously while maintaining their individual identity. As illustrated in the precedent photographs, traditional campuses achieved this balance between collective and individual identity through related massing, strong streetwall and open space configurations, common use of materials, and expression of the academic and research culture within. Recent additions to the campus such as the Djavad Mowafaghian Centre for Brain Health, Beaty Biodiversity Centre and UBC Bookstore demonstrate how these principles can be applied with contemporary architecture.
5.3.3 CONTINUITY OF CAMPUS FABRIC

Three key components make up the unique character of the UBC Vancouver Campus:

- Heritage buildings constructed in local grey granite
- Modernist buildings constructed in white glazed brick and concrete frame
- Well-developed system of mature landscape

Materials and colour guidelines for new buildings in the University Boulevard Precinct are based on characteristics of buildings that have achieved a successful fit into the campus fabric.

- Architectural expression should be light and transparent, in contrast to the heavier, more severe appearance of some of the existing buildings.
- 'Hi-tech' / contemporary modernist design is encouraged as being demonstrative of innovation, research and sustainability.
- The colour and material palette is derived from that for the Historic Core, but with more freedom for primary ‘field’ materials. Primary ‘field’ exterior cladding should be selected from: lighter coloured prefinished metal panel, glass, terra cotta material, porcelain enamel, stone, and brick.
- Clear or lightly tinted vision glazing should be used. No highly reflective or deeply tinted vision glazing is permitted.
- Accent materials should be similar to those noted in the Historic Core guidelines.

RECOMMENDED MATERIALS

![Images of buildings and landscapes representing different campus fabrics.]

HISTORIC BEAUX ART CAMPUS FABRIC
MODERNIST CAMPUS FABRIC
TRANSPARENT, INVITING, WELCOMING AND PUBLIC ARCHITECTURE
UNIFIED ARCHITECTURE
LANDSCAPE CAMPUS FABRIC

PRIMARY MATERIALS / COLOURS
SECONDARY MATERIALS / COLOURS
ACCENT MATERIALS / COLOURS
5.3.4 LEGIBILITY AND TRANSPARENCY

One of the objectives is to animate the Precinct by developing a high level of transparency into active public uses within buildings. This transparency needs to be balanced by the requirement to design the buildings in a highly sustainable way to reduce energy consumption, amongst other green objectives. Any west or south facing façades will require special design attention in achieving both objectives.

In addition to the transparency of the lower levels, active uses must be located at grade to create a lively and animated public realm that promotes social interaction and a true sense of public place. Recommendations to achieve these objectives include:

- Locate the active and highest populated areas on the ground level with easy access to the second level and basement areas, as applicable.
- Maximize public open space and circulation on the ground floor. Enhance these spaces by locating them adjacent to other public functions that can open onto common spaces, creating a greater sense of openness.
- Buildings in the Precinct will provide weather protection as set out in Section 4.3 Weather Protection.
- Locate and visually express vertical circulation systems (stairs and elevators) to reveal student life to assist with Precinct legibility, improve ambient light and enhance CPTED performance.
5.3.5 CAMPUS AS A LIVING LAB

“As a living laboratory, UBC faculty, staff, students and partners use the University’s buildings and infrastructure, combined with UBC’s education and research capabilities, to test, study, teach, apply and share lessons learned, technologies created and policies developed. We study our own behaviours and discoveries to advance sustainability scholarship inside and outside UBC.”

In an effort to create a vibrant and complete sustainable community, the future development of the Precinct should strive to embody the goals and objectives of the Campus as a Living Lab initiative. The goals of the CLL program is to develop joint operational research projects that:

- Integrate the core learning and research mission of UBC with campus operations.
- Involve sound financial use of UBC infrastructure for demonstration of and research on leading edge solutions (technical and social).
- Engage researchers, students, faculty instructors, operations staff and external partners.
- Have potential for knowledge transfer within and beyond UBC, and where possible, involve partnerships between UBC and public, private and NGO organizations.

Where possible, these goals should be addressed by building interdisciplinary research in from the pre-design stage in order to build research capability and infrastructure into the project at a deep level.
5.4 D.H. COPP BUILDING SITE

The proposed intention for the future building on the DH Copp site is that it accommodate a mix of academic, commercial and residential uses with “Campus as a Living Lab (CLL)” as an integral component of the project.

The 6-storey building form is envisioned as a continuous streetwall along University Boulevard with a portal into a south-facing courtyard. Prospective ground floor academic and/or commercial spaces should be oriented to University Boulevard and contribute to the animated quality of this important campus corridor. The orthogonal planning grid of the main campus is encouraged to be incorporated into the south side of the D.H. Copp site future building footprint. A number of heritage trees on the site have been identified and should be incorporated into the site plan.

Recommendations for the redevelopment of the D.H. Copp site are as follows:

- The goals and objectives of the Campus as a Living Program must be fully integrated and considered throughout the planning, programming and design process for this site.
- Building siting should contribute to a continuous street wall along University Boulevard.
- The ground floor setback should be pulled south of the Strangway building frontage to create an expanded public realm along University Boulevard for street level programming while ensuring adequate circulation and waiting space is maintained for at and around trolley bus shelters.
- An additional top storey(s) setback or break in the massing should be considered to improve solar access on to University Boulevard to enhance the quality of the pedestrian environment.
- The building footprint should be articulated to preserve existing conifers along the north side and existing allee of mature London Plane trees on the south side.
- Building siting and massing should incorporate a green pocket park along University Boulevard in relation to preserved conifers.
- The building footprint should form a partially enclosed south facing courtyard.
- An open passage-way through the building should align with Athlete’s Way and on the orthogonal planning grid of the north side of University Boulevard.
DH COPP SITE PLAN - VARIED SETBACK FOR TREE PRESERVATION AND EXPANDED PUBLIC REALM

Note: Future planning includes review of bicycle facility design
5.5 GSAB SOUTH

The GSAB site will likely be redeveloped into two separate buildings. The proposal for the south portion of the site includes a potential mix of academic, commercial and residential uses. The building form will contribute to a continuous streetwall along Wesbrook Mall and University Boulevard while also strengthening the axis of The Yard: the laneway between War Memorial Gym and the GSAB site. The Wesbrook Mall and University Boulevard corner of the future building offers a key opportunity to help announce an academic gateway experience and to express UBC’s identity and values. Ground floor academic and retail uses will contribute to an animated and vibrant public realm along all edges. Recommendations for the redevelopment of the GSAB South site are as follows (See also Section 5.3.1 for Academic Gateway guidelines and imagery):

A confident academic architectural expression
- Create strong corners expressive of academic boldness at University Boulevard and Wesbrook Mall intersections.
- Convey a commitment to academic strength through an authentic and substantive expression as well as high quality materials and detailing that communicate optimism and innovation.
- Create an architectural anchor and ‘lantern’ through a highly transparent lower floors and uses that are inviting, welcoming, and public.
- Contribute to a coherent identity that emphasizes UBC’s academic research strength through a predominantly mid-rise institutional massing.
- Contribute to a cogent ambient scale through building heights and architectural character.
- Employ academic architectural features (e.g. high ground floor, two storey spaces, generous externally expressed staircases).

Bold massing that contributes to campus cohesion
- Mediate between the monumental and academic scale.
- Visually frame the precinct’s entry into University Boulevard through massing that references the Strangway Building massing to provoke the idea of “gateway sentries”.
- Contribute to campus cohesion through harmonious scale and relationship with neighbouring buildings and their architectural character.
- Make legible and accentuate through massing the campus structural transitions that occur at this junction: shift in the campus grid orientation, change in setback from Wesbrook Mall and the stepping up of height from the 4-5 storey academic mid-rise to the 18 storey student resident towers to the north.
- Create a consistent street wall by aligning key architectural datums, such as setbacks, canopies, floor levels, façade orders and other building articulations.

Animating programing and special features
- Intensify student vibrancy through public realm amenity, ground oriented programming and tenancy and opportunities for community expression.
- Announce and celebrate Innovation by introducing opportunities to display and communicate achievement as well as demonstrate ideas through intimate interaction.
- Use bold elements – through light, graphics, architecture.
- Facilitate Cultural Celebration and Exchange through year round programming, celebratory pageant and multi-sensory experience.
5.6 GSAB NORTH

The form of development for the north portion of the GSAB site has the potential for 5 storeys of housing over a ground floor of a mixture of potential uses. The potential uses could include: athletics research, training and programming link to War Memorial Gym; shops and services to support transit users activities in The Yard outdoor space; and live work studios. At the lower and mid-levels, the building will help contribute to a continuous streetwall along Wesbrook Mall, The Yard, and the south side of The UBC Bus Exchange. Active street level uses should be provided along The Yard and The UBC Bus Exchange to contribute to the animation and vibrancy intended for these areas. Development of the site will need to coordinate with the programming and any rehabilitation or development plans for War Memorial Gym.

Recommendations for the GSAB North project are as follows:

- Align the north edge of GSAB North to War Memorial Gym to create a continuous streetwall for the UBC Bus Exchange.
- Consider potential integration of GSAB North and War Memorial Gym through programming ground floor relationships.
- Enhance the transit departure experience through ground level retail/commercial and academic uses.
- Active ground floor academic uses should be prioritized along The Yard to help achieve the objectives of this link.
- Allow for a service lane access point from Wesbrook Mall to service the GSAB site, War Memorial Gym and University Boulevard Site B.
5.7 GAGE SOUTH STUDENT RESIDENCES

The Gage South Student Residences and bus layover is proposed for the southwest corner of Student Union Boulevard and Wesbrook Mall. At grade programming includes street oriented residential and academic uses along both street frontages. Student housing and an open courtyard is located above at the podium level, while the bus layover is located and enclosed below the podium level. The residential building massing is articulated along the curve of Wesbrook Mall, and steps up in height as it progress north. The southernmost portion aligns with the massing of GSAB North, while the tallest portion in the north marks an important campus gateway at Wesbrook Mall and Student Union Boulevard.

Recommendations for the Gage South Student Residence and Bus Layover are as follows:

- Provide continuous animated streetfront along Wesbrook Mall and Student Union Boulevard with a combination of active academic or student uses, residential uses and entries, vertical landscape features and public art.
- Provide active street level uses at the north-east corner of the site (multi-purpose Collegium or similar).
- Create a partially enclosed courtyard at podium level for residential use open to the west to optimize daylight exposure to provide visual connection to the campus and to buffer noise from the UEL residences.
- Connect the podium courtyard to Student Union Boulevard with a generous exterior stair that reads like an extension of the public realm landscaping.
- Locate bus access to the Bus Exchange on Wesbrook Mall and design adjacent street level uses to mitigate significant impacts from bus traffic, noise and pollution.
- Locate service access to residential service rooms on Student Union Boulevard.
- Align the east face of the building mass to the curved Wesbrook Mall axis and step or rotate the upper floor building masses to provide a consistent setback from Wesbrook Mall.
- Transition building heights along Wesbrook from 8-storeys in the southeast corner to 12-14 storeys in the northeast corner.
- Setback or change the architectural expression above the eighth storey along Wesbrook to provide a stronger street wall expression with the buildings south of the transit site and to provide visual interest; consider a light penthouse expression for upper storeys.
- Provide visual breaks in the continuous Wesbrook Mall streetwall to reduce the apparent scale of the building from Wesbrook Mall.
- To strengthen the experience of the UBC Bus Exchange as a large public room, create a positioning and massing relationship between Gage South and the Aquatic Centre south facades.
5.8 UNIVERSITY BOULEVARD SITE B

Site B is a 6-storey mixed use residential and retail building located on the north side University Boulevard. Ground level retail uses should be oriented towards University Boulevard and contribute to The Yard and Athlete's Way. Site B will help establish the setback along the north side of University Boulevard with Site D responding accordingly. Adequate access to parking, building services and MacInnes Field will be provided off University Boulevard until longer term access can be provided off Wesbrook Mall.

Recommendations for Site B are as follows:

- Orient retail/commercial uses towards University Boulevard and consider wrapping the east and west corners to respond to Athlete's Way and The Yard.
- Setback the building from University Boulevard to align with Alumni Centre.
- Align ground floor street front with University Boulevard, Athlete's Way and The Yard.
- Provide a generous public realm condition that can accommodate street trees, outdoor program (i.e. café tables), furnishings, and adequate pedestrian circulation space.
- Locate active uses or vertical circulation on the corners of the building to enhance academic expression with visible student movement and activities.
- Align building parapet, roof projection or architectural feature with the Alumni Centre to the north.
- Enhance the academic character of the precinct by providing a strong street wall along University Boulevard by providing no balconies, no slab extensions, strong vertical architectural elements, and unified and consistent materials that related to the campus core.
5.9 UNIVERSITY BOULEVARD SITE D

The concept for Site D includes street-level commercial uses with residential housing above. Site D is uniquely located in that it interfaces with the public realm on all sides and as such, street level commercial uses should be considered around the entire building. The east edge of the building should respond to the alignment of Athlete’s Way and ensure a visual connection south across University Boulevard to the D.H. Copp sites. Adequate service circulation and access to MacInnes Field for event set up and function must be considered in the siting of the building and the treatment of the public realm.

- Setback the building from University Boulevard to align with Alumni Centre.
- Provide street level commercial/retail uses around all sides of the building.
- Locate active uses or vertical circulation on the corners of the building to enhance academic expression with visible student movement and activities.
- Vertically align the building parapet, roof projection or architectural feature with the Alumni Centre to the north.
- Ensure adequate circulation for servicing and access to MacInnes Field including the ability for the Block Party stage truck to exit MacInnes Field west of Site D.
- Consider internal service area to avoid conflicts with public realm and pedestrians.
- Provide a generous public realm surrounding the building that can accommodate street trees, outdoor program (i.e. café tables), furnishings, and adequate pedestrian circulation space.

Note: Future planning includes review of bicycle facility design.
6.0 SUSTAINABILITY

UBC commits all aspects of the University—its infrastructure, research, teaching and learning elements—to exploring and exemplifying social, economic and environmental sustainability. As such, the University Boulevard Precinct will embody and express this commitment through architectural and public realm design and programming.

As the Precinct includes two land-use areas, guidelines for each are as follows:

**Academic Lands**
All buildings and landscape within the Academic Lands area are to adhere to Section 2.1. Sustainability of the Vancouver Campus Plan Part 3.

**University Boulevard Neighbourhood**
Also known as the Village Centre Academic area, all buildings and landscapes within this designated area to adhere to Section 2.6 Sustainable Community Strategies of the University Boulevard Neighborhood Plan.
7.0 STREET FRONT USES

The Precinct will be designed to promote gathering, socializing and interaction through active street-level uses. Street-level uses will include retail/commercial and academic in areas identified in the street front uses diagram below. In general, streetfront uses should be concentrated where a majority of activity is expected (i.e. University Boulevard, the UBC Bus Exchange). Programming of these uses should be informed by the following recommendations:

**Academic**
- Explore street-level academic uses such as student support services, collegia, informal study spaces, collaborative spaces, innovation and partnership centre, visitors centre and galleries.
- Design ground floor buildings for flexibility to accommodate academic uses.

**Retail/Commercial**
- Concentrate retail and commercial uses along University Boulevard.
- Provide retail/commercial uses along the north sides of GSAB North and War Memorial Gym to serve the UBC Bus Exchange departure area.
- Consider retail/commercial uses along all sides of Site D to interface with and animate University Boulevard, MacInnes Field, and Athlete’s Way.
- Provide small scale retail to serve daily needs such as a small grocer, food market, and cafes.
- Ensure a generous streetscape to allow for adequate circulation as well as outdoor uses such as café patios.
8.0 TRANSIT

Transit connections are an important aspect of being a complete community. The Precinct is envisioned as a transit hub and will include the UBC Bus Exchange as well as the trolley bus route along University Boulevard. Additionally, long term planning for a rapid transit connection to UBC anticipates that the line would enter campus along University Boulevard. Depending on the technology, the line could run underground or at street level. Both scenarios will be considered and incorporated into plans for the precinct, including space reservations for a potential future tunnel, stations and access.
9.0 BUILDING ENTRIES

The location of all new building entries should follow the guidelines as set forth in Section 2.3.7 Building Entry Location of the Vancouver Campus Plan Part 3 Design Guidelines. The following are general guidelines for the location of building entries for the remaining building sites in the Precinct:

**DH Copp site**
- Orient primary entry towards University Boulevard.

**GSAB South**
- Orient primary entry at the corner of Wesbrook Mall and University Boulevard.
- Provide secondary entries along The Yard.

**GSAB North**
- Orient primary entry along Wesbrook Mall.
- Provide secondary entries along The Yard and adjacent to the UBC Bus Exchange where appropriate.

**Gage South Student Residences**
- Orient residential entries along Wesbrook Mall and Student Union Boulevard.

**Sites B and D**
- Orient primary entries towards University Boulevard with consideration for entries addressing adjacent corridors (i.e. The Yard and Athlete's Way).
10.0 INFRASTRUCTURE AND SERVICING

All services for the University Boulevard Precinct are being designed in accordance with a campus-wide Master Servicing Plan (MSP), prepared in conjunction with UBC Energy and Water Services. The goal of the servicing plan is not only to service newly developing areas, but to rectify deficiencies and limitations of the current systems. Where appropriate, innovative infrastructure and servicing strategies will be considered to reduce the external utility needs of the University.

**Stormwater Management**
The existing storm sewer system is part of the North Campus catchment area and conveys stormwater to the GVRD spiral drain on Cecil Green Park road.

Localized improvements to the system were undertaken as part of the reconstruction of the University Boulevard roadway. The proposed development in the University Boulevard Precinct is not anticipated to trigger off-site upgrades.

**Sanitary Sewer**
A comprehensive strategy for upgrading of sanitary sewer mains was prepared by consultants in conjunction with UBC Energy and Water Services, and is included in the MSP. Sanitary sewers within the neighbourhood were replaced during the reconstruction of the University Boulevard roadway. The proposed development within the neighbourhood is not anticipated to trigger any off-site upgrade requirements to the GVRD sewer along North West Marine Drive or within the City of Vancouver.

**Water**
The water distribution system for University Boulevard is being designed within the context of a campus-wide strategy for water distribution, included in the MSP. Water demands for all uses on the campus have been projected and a computer model analysis performed. A comprehensive program of water network improvements is being implemented, but no particular upgrading is triggered by development of the University Boulevard Precinct. A new water line has been built as part of the reconstruction of the University Boulevard roadway.

**District Energy**
Buildings shall be designed for connection to district energy in order to reduce Greenhouse Gas emissions associated with space heating. A connection to the Academic District Energy System shall be made when available.

**Infrastructure Maintenance**
A maintenance jurisdiction plan is being developed to define operational and funding responsibility for maintenance of infrastructure elements including roads, sidewalks, landscape areas, trees, street furniture, lighting, signage and related services.